

English Time Adverbial NP's in Machine Translation

Ugray Gábor, Ujvárosi Gábor

MorphoLogic, Ltd.
{ugray,ujvarosi}@morphologic.hu

Keywords: machine translation, time adverbials, adverbial NP's

Recognizing time adverbial NP's in the parse side is crucial for correct MT, therefore this issue has received special attention during the development of our English-Hungarian machine translation system. This paper describes our solution and presents some theoretical conclusions we have arrived at during the formalization and lexical coding of time adverbial structures.

Most models of natural language, especially generative syntax, tend to stop at prepositional and adverbial phrases for modifiers of the nominal or verbal phrase. The translation of prepositional phrases that serve as time adverbials is largely unpredictable, therefore they need to be individually coded. In the course of this work it has become obvious that the key issue is the description of the contained NP's.

In this paper we present some of the structural and distributional properties of time adverbial NP's. We point out structural peculiarities (e.g., *last night* is grammatical, while **last house* is not) and describe the set of pertaining lexical features used in our grammar.

Our solution is novel in the sense that we encode lexical properties as features of the NP itself instead of its head noun, which means that we store whole NP's with little internal structure or generalization. From the point of view of parsing, this decision was motivated by the irregular structure and distribution of the NP's in question, and from the point of view of MT, by the unpredictability of the translation.

The paper discusses the phenomenon of bare adverbial NP's, that is, noun phrases that can serve as adverbials of time even in the absence of a preposition. This is an area with scarce literature, and our experiences have lead us to rethink the traditionally sharp distinction between PP's and NP's in English syntax.